

### **AMENDMENTS TO THE DRAWINGS**

The two Replacement Sheets attached in the Appendix following page 10 contain amendments to Figures 2-5. Sheet 1, which includes Figures 1 and 2, replaces the original sheet containing Figures 1 and 2. Sheet 2, which includes Figures 3-5, replaces the original sheet containing Figures 3-5. As requested in the Office Action, Figures 2-5 are amended to show the parts shown in section as crosshatched with the appropriate pattern based on their material pursuant to the M.P.E.P.

Attachment: Replacement Sheets

## REMARKS

This Amendment is responsive to the Office Action mailed August 8, 2006, in which claims 1-25 are pending. Claims 2, 4, 12, 14, 19, 21, and 25 are withdrawn. Figures 2-5 were objected to. Claims 1, 3, 5-11, 13, 15-18, 20, and 22-24 stand rejected. By this response, claims 1, 3, and 5-10 are cancelled. Figures 2-5 are amended. New claims 26-34 are submitted. Entry of this amendment and reconsideration and allowance of this application are requested.

### Election

The Applicant confirms the provisional election made during the telephone conversation between Examiner Patel and Walter C. Linder (Reg. No. 31,707) on March 7, 2006. The Applicant elected to prosecute the invention of specie I, figure 2, claims 1-3, 5-13, 15-20, and 22-25. The withdrawal in the Office Action of claims 2, 12, 19, and 25 as not reading on the elected specie is acknowledged.

### Drawings

The drawings were objected to as improperly crosshatched. By this response, the Applicant submits amended Figures 2-5. Replacement Sheets are attached in the Appendix following page 10. Consideration of amended Figures 2-5 and withdrawal of the objection are respectfully requested.

### Rejections of Claims 1, 3, and 5-10

The Office Action rejected claims 1 and 5-7 under 35 U.S.C. § 102(c) as anticipated by U.S. Patent No. 6,927,343 to Watanabe. The Office Action rejected claim 3 under 35 U.S.C. § 103(a) as unpatentable over the Watanabe patent in view of U.S. Patent No. 5,903,440 to Blazier. Claims 1 and 8-10 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,924,187 to Matz in view of the Watanabe and Blazier references. By this response, claims 1, 3, and 5-10 are canceled.

**103 Rejection of Claims 11, 13, 15-18, 20, and 22-24**

Claims 11, 13, 15-18, 20, and 22-24 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the Matz patent in view of the Watanabe and Blazier references. The Office Action asserted the Matz patent discloses an integrated lead flexure including a base layer, a plurality of elongated electrical traces on the base layer, and a dielectric coverlay over at least portions of the traces. The Office Action conceded that the Matz patent does not disclose slots in at least portions of the cover coat oriented non-parallel to a longitudinal axis of the traces. However, the Office Action asserted the Blazier patent discloses a circuit board with a slot extending partially through the dielectric layer and that the Watanabe patent discloses a flexible electrical circuit with slots in the dielectric layer oriented non-parallel to a longitudinal axis of the traces. The Office Action further asserted that providing slots in the dielectric layer to provide flexibility is known in the art, and that it would have been obvious in view of the Blazier and Watanabe references to provide the flexure disclosed in the Matz patent with slots in at least portions of the coverlay oriented non-parallel to a longitudinal axis of the traces to achieve a desired flexibility.

The Applicant respectfully disagrees. Independent claim 11 recites an integrated lead flexure including a base layer, a plurality of electrical traces on the base layer, a dielectric coverlay over at least portions of the traces, and slots in at least portions of the coverlay oriented non-parallel to a longitudinal axis of the traces. The invention of claim 11 offers important advantages. The slots in the coverlay prevent curling caused by expansion and contraction of the coverlay. This curling can interfere with mechanical and other characteristics of the flexible circuit. Thus, the inclusion of the slots in the coverlay reduces the susceptibility of the integrated lead flexure to thermal and hygroscopic-induced curling.

The Blazier patent discloses a channel 18 formed in a circuit board 10. The channel 18 allows the board 10 to be bent so that a first portion 26 of the board 10 is perpendicular to the second portion 28 (col. 2, *l.* 65 – col. 3, *l.* 1). The channel 18 is formed such that only a thin remainder of the supporting layer 30 is left, thereby facilitating bending along the channel 18 (col. 2, *ll.* 62-66). This perpendicular bend allows the circuit board 10 to have

contact with a vertical user interface board and a horizontal main board without the use of separate wires, plugs, or other connectors (col. 1, ll. 27-46). The Watanabe patent discloses a contactor 21 comprised of a substrate 22 and wires 3 formed on the substrate 22 (col. 9, ll. 12-20). Openings 22b are provided in the substrate 22 to reduce the spring constant of the substrate 22, thereby facilitating deformation of the wires 3 (col. 9, ll. 24-29). This increased deformation alleviates the insufficient stroke problem common in conventional contactors (col. 3, ll. 21-27).

One of the purposes of the claimed invention is to reduce curl associated with curing the coverlay. The Matz, Blazier, and Watanabe references do not even recognize that curl can occur as a result of curing the coverlay, much less provide a solution for this problem. Therefore, there is no motivation to combine the cited references. Even assuming for the purpose of argument that these references were combined, their combination would not result in the claimed invention. Matz does not disclose slots in the coverlay. Blazier and Watanabe teach openings or slots in the base layer, not in a coverlay. Therefore, the combination of these references is structurally different from the invention of claim 11. Finally, the combination of Matz, Blazier, and Watanabe would not provide the advantages of the claimed invention because the inclusion of a base layer having a slot or channel as taught by Blazier and Watanabe into an integrated lead flexure would not reduce curling caused by expansion and contraction of the coverlay. In view of these differences and the associated advantages, claim 11 and its dependent claims 13 and 15-17 are patentable over the Matz patent in view of the Blazier and Watanabe references. The Applicant requests reversal of the §103(a) rejection of claims 11, 13, and 15-17.

Claim 18 recites an integrated lead flexure including a stainless steel layer, a plurality of elongated electrical traces over the stainless steel layer, a dielectric insulating layer between the stainless steel and the traces, a dielectric coverlay over at least portions of the traces, and slots in at least portions of the coverlay oriented non-parallel to a longitudinal axis of the traces. For reasons similar to those discussed with respect to claim 11, the Matz, Blazier, and Watanabe references neither teach nor suggest an invention having the features and benefits of claim 18. Claim 18 and its dependent claims 20 and 22-24 therefore are

patentable over the Matz, Blazier, and Watanabe references. The Applicant, therefore, requests reversal of the §103(a) rejection of claims 18, 20, and 22-24.

#### **New Claims 26-34**

New claim 26 is directed to a method of manufacturing an integrated lead suspension component. Claim 26 and dependent claims 27-34 are drawn to the elected Specie I, Figure 2. Claim 26 recites a method comprising applying a curable dielectric coverlay over at least a portion of an electrical trace, forming a plurality of slots oriented non-parallel to a longitudinal axis of the trace in at least a portion of the curable coverlay, and curing the coverlay. The prior art does not teach or suggest a method of manufacturing an integrated lead suspension component comprising forming a plurality of slots in a curable coverlay and curing the coverlay. Claim 26 therefore is allowable over the prior art. Claims 27-34 depend from claim 26, and thus are allowable over the prior art. Consideration and allowance of claims 26-34 are requested.

#### **Conclusion**

The drawings and all of the claims remaining in this application should now be seen to be in condition for allowance. In addition, it is submitted that the new claims are in condition for allowance. A notice to that effect is respectfully requested.

Respectfully submitted,

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